

In the Claims

1. (Previously Amended) A shock-resistant system for operatively interconnecting circuit cards within a computer system to enable data to be transmitted and received therebetween comprising:

a) a common backplane having a plurality of circuit card connectors disposed in spaced apart relation thereon for supporting circuit cards in a generally upright parallel relationship;

b) a plurality of circuit cards, each of said circuit cards being mounted to one of said circuit card connectors, each of said circuit cards having a transmitter LED and a receiver photodiode formed thereon;

c) a plurality of optical pathways formed solely through air between said circuit cards, the optical pathways forming a plurality of independent optical connections between said transmitter LED on at least one of said circuit cards and said receiver photodiode on any one of said circuit cards; and

d) wherein said circuit cards are maintained in fixed relationship to one another via said common backplane to maintain continuous optical intercard communications between each of said circuit cards such that the LED on each circuit card is operative to generate and transmit a signal, and the photodiode of one corresponding circuit card is operative to receive the signal through the corresponding optical pathway.

2. (Previously Amended) The system of Claim 1 wherein said signals generated by said transmitter LEDs and received by said photodiodes comprise optically transmitted infrared radiation.

3. (Previously Amended) The system of Claim 2 wherein said transmission and reception of signals between said transmitter LEDs and said receiver photodiodes comprise a standardized infrared communications scheme protocol.

4. (Original) The system of Claim 3 wherein said infrared communications scheme protocol comprises a protocol developed by the Infrared Data Association.

5. (Previously Amended) The system of Claim 1 wherein said circuit cards are housed within an enclosure.

6. (Previously Amended) The system of Claim 1 wherein said circuit cards are operative to run an embedded application.

7. (Canceled).

8. (Previously Amended) A method for operatively interconnecting circuit cards within a computer to enable data to be transmitted and received therebetween comprising:

a) forming a common backplane having a plurality of circuit card connectors disposed in spaced apart relation thereon for supporting circuit cards in a generally parallel upright relationship;

b) providing a plurality of circuit cards each having a transmitter LED diode and a receiver photodiode formed thereon;

c) mounting each of said circuit cards to one corresponding circuit card connector to establish a plurality of optical pathways between the LED diodes and the photodiodes of the corresponding circuit cards, such that a plurality of independent optical connections between the circuit cards are formed solely through air;

d) generating and transmitting a light from at least one of the LED diode, the light generated from the LED carrying data to be transmitted from the circuit card on which the at least one LED diode is formed;

e) receiving the light by the photodiode formed on any of the circuit cards, so as to receive the data carried by the light.

9. (Previously Amended) The method of Claim 8 wherein in steps d) and e), said light generated by said LED and received by said photodiode comprise optically transmitted infrared radiation.

10. (Previously Amended) The method of Claim 8 wherein in the light transmitted from said LED to said photodiode comprise a standardized infrared communications scheme protocol.

11. (Previously Amended) The method of Claim 10 wherein said infrared communications scheme protocol comprises a protocol developed by the Infrared Data Association.

12. (Previously Amended) The method of Claim 10 wherein said circuit cards are operative to run an embedded application.

13. (Previously Amended) The method of Claim 8 wherein said circuit cards are operative to run an embedded application.

14. (Canceled).

15. (Previously Amended) A shock-resistant system for operatively interconnecting circuit cards within a computer system to enable data to be transmitted and received therebetween comprising:

a) a common backplane having a plurality of circuit card connectors disposed in spaced apart relation thereon for supporting circuit cards extending normal to the backplane in a generally upright parallel relationship;

b) at least a first and a second circuit cards, a pair of first LED and photodiode and a pair of second LED and photodiode formed thereon, respectively, the first and second LED's being operative to generate and transmit infrared signals which carry data to be transmitted from the first and second circuit cards, respectively, and the first and second photodiode being operative to receive the infrared signal generated by the second and the first LED's, respectively;

c) a first optical pathway formed between the first LED and the second photodiode, and a second optical pathway formed between the second LED and the first photodiode; and

d) wherein the first and second circuit cards are maintained in fixed relationship to one another, such that the first optical pathway is parallel to the second optical pathway, and the infrared signals are transmitted along the first and second optical pathways independently with each other.

16. (Previously Added) The system of Claim 15, wherein the computer system includes a digital camera or a hand-held data collection device.